IN THE SPECIFICATION

Please amend the specification as follows:

The paragraph beginning at page 5, line 16 is amended as follows:

Another aspect of the present invention is [[a]] for an improved event-correlation system that better serves the needs specific to communication networks. The method is performed by forming fuzzy cognitive map fragments using the network element interdependencies derived from a database defining the network managed objects and event notifications that convey the state of one or more managed objects. The method then requires sampling generated incoming real-time events from the communication network. The sampled events are then mapped to the FCM fragments to diagnose the problem.

The paragraph beginning at page 11, line 17 is amended as follows:

FCMs may be used for network modeling. An FCM is a ~~singed~~ signed directed graph, where nodes represent events and edges represent the partial causal flow between nodes. The node in an FCM in a communication network context typically represents an elementary event (state of a managed object) or a network concept such as performance degradation. The edge can indicate positive or negative causal influence. A positive edge can imply that the occurrence of one event can cause the occurrence of another event (P can imply Q), while a negative edge can imply that the occurrence of one event can nullify the effect of the other event in the communication system (P can nullify Q). An FCM state may be represented as a vector at any given time.

The paragraph beginning at page 13, line 21 is amended as follows:

C_i can also be decomposed into a quantifier (Q_i) set and a modifier (M_i) set. From the above example, $Q_i \in Q_a$ = {good, not_so_good, bad}, and M_i = {PERFORMANCE, FAULT} where Q_a defines the partial ordering of quantifiers for each $Q_i \in Q_a$. The causal abstract negation of Q_i is defined as $\sim Q_i$, and Q_I and $\sim Q_I$ are *symmetrical* quantifiers. A *median* quantifier

value is also defined. An example of a quantifier set 200 that can be used in event-correlation is shown in Figure 2. In the example, 'Bad' [[210]]230 is the abstract negation of 'Good' [[220]]210 and 'moderate' [[230]]220 is the median quantifier.

The paragraph beginning at page 23, line 11 is amended as follows:

Creating FCM fragments involves finding relationships between concepts. The evidence available through studying network data or event logs or through an expert typically dictates the numerical values for a pair of concepts or objects. Referring to Figure [[13]] 11, the "Buffer overflow" node 1120 has two contexts 1110 and 1130 and "increases" 1115 in these two contexts 1110 and 1130 can have two different numerical values. The numerical values associated with the link partial order linguistic variables depend on the network context. For example, consider the fragment 1100 shown in Figure 11. The increase = $\mu\, I_{12} < 0.50$ of FCM fragment 1100 of Figure 11 was determined through a combination of expert opinion, network context and through trials where the effect of ipInReceives on Buffer flow was quantified to less than 0.50. FCM fragment increases = $\mu\, I_{23} > 0.75$ was determined through expert opinion, network context and through trials where the effect of icmpInSrcQuench on Buffer flow was quantified to greater than 0.75.

The paragraph beginning at page 24, line 1 is amended as follows:

In the given FCM fragment 1400, the shaded nodes are the concept nodes 1420 and the unshaded nodes 1410 are the network managed object nodes. The managed object nodes 1410 in the FCM fragment 1400 are counters whose values continue to increment. The count value from the managed objects, which arrives through a SNMP or a CMIP message, can be evaluated to establish the degree of evidence, as explained above. In Figure 14, the *tail* nodes are nodes with text "icmpInRedirects", ~~"ipOutRoutes"~~ "ipOutNoRoutes", "icmpInDestUnreaches", and the node with text "Performance degradation is a head node. The *head* concept nodes with text "Performance degradation" are critical nodes. Further evidence calculation can be required when there is '*moderate*' evidence flow.